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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/545,691 04/07/00 GILBERT

B 1482-132

EXAMINER

WM01/0328

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P C

SOBLITKA, P

ART UNIT

PAPER NUMBER

2683

DATE MAILED:

03/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



**UNITED STATES DEPARTMENT OF COMMERCE**  
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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER
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ART UNIT	PAPER
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Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/545,691

Applicant(s)

GILBERT, BARRIE

Examiner

Philip J. Sobutka

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: .

## DETAILED ACTION

### *Double Patenting*

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claim 11 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 2 of prior U.S. Patent No. 6,122,497. This is a double patenting rejection.

3. Claim 12 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 3 of prior U.S. Patent No. 6,122,497. This is a double patenting rejection.

4. Claim 13 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 5 of prior U.S. Patent No. 6,122,497. This is a double patenting rejection.

5. Claim 14 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 6 of prior U.S. Patent No. 6,122,497. This is a double patenting rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,122,497. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the patent claims the same matter except for second and third transistors and the first transistor specifically operating in common base mode. It would have been obvious to one of ordinary skill in the art that the claimed arrangement would have functioned as well with different specific circuits and elements, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 1 in order to allow for the use of other specific circuitry.

8. Claims 2-4 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,122,497. Although the conflicting claims are not identical, they are not patentably distinct from each other because: claim 2 of the patent claims the same matter except for second and third transistors and the first transistor specifically operating in common base mode. It would have been obvious to one of ordinary skill in the art that the claimed arrangement would have functioned as well with different specific circuits and elements, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 1 in order to allow for the use of other

specific circuitry. The claim also differs from patent claim 2 in that the RF mixer has a local oscillator input. Official Notice is taken that it is notoriously well known to use a local oscillator to provide a signal to an RF mixer. It would have been obvious to one of ordinary skill in the art to modify claim 2 of the patent to use a local oscillator signal in order to allow for tuning by local control of the oscillator signal frequency.

As to claim 3, claim 2 of the patent teaches everything claimed as shown above including forming a current mirror coupled to the second terminal of the inductor. It would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in claim 3 in order to provide a common current source for the current mirror.

As to claim 4, the patent claim teaches everything claimed as shown above except for the transistor being a BJT configured in common base mode. Official Notice is taken that the use of BJT transistors in common base configuration are well known in the art. It would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in order to utilize a readily available component in a proven configuration.

9. Claims 5-10, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,122,497. Although the conflicting claims are not identical, they are not patentably distinct from each other because .

Regarding claim 5, claim 2 of the patent claims the same matter except for additional details regarding the specific terminal connections of the first and second transistors and inductors and an additional transistor. It would have been obvious to

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one of ordinary skill in the art that the claim would have functioned as well with different specific connections, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 5 in order to allow for the use of other specific circuitry.

Regarding claim 6, claim 2 of the patent claims the same matter except for additional details regarding the specific terminal connections of the second transistor and inductor and an additional transistor. It would have been obvious to one of ordinary skill in the art that the claim would have functioned as well with different specific connections, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 6 in order to allow for the use of other specific circuitry.

Regarding claim 7, claim 2 of the patent claims the same matter except for an additional transistor. It would have been obvious to one of ordinary skill in the art that the claim would have functioned as well with different specific circuitry, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 7 in order to allow for the use of other specific circuitry.

As to claim 8, claim 2 of the patent teaches everything claimed as shown above including forming a current mirror. It would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in claim 8 in order to provide a common current source for the current mirror.

Regarding claim 9, claim 2 of the patent claims the same matter except for additional details regarding the specific terminal connections of the second transistor

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and inductor and an additional transistor. It would have been obvious to one of ordinary skill in the art that the claim would have functioned as well with different specific connections, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 9 in order to allow for the use of other specific circuitry.

Regarding claim 10, claim 2 of the patent claims the same matter except for an additional transistor. It would have been obvious to one of ordinary skill in the art that the claim would have functioned as well with different specific connections, therefore it would have been obvious to one of ordinary skill in the art to modify the patent claim as shown in instant claim 5 in order to allow for the use of other specific circuitry.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. Claims 1,4-8, are rejected under 35 U.S.C. 102(e) as being anticipated by Voinigescu et al (US 5,789,799).

Consider claim 1. Voinigescu teaches an RF mixer comprising: a mixer core having a LO input port (Voinigescu fig 9, LO+/-), an IF output port (Voinigescu, fig 9, IF+/-), and an input terminal for receiving a current signal (Voinigescu, terminal coupled to emitters of Q3 & Q4); an RF input section for providing the current signal coupled to



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the input terminal, the input section including a transistor (Voinigescu, Q1) coupled to the input terminal, and an inductor (Voinigescu, LE) coupled to the transistor.

As to claim 4, note that the transistor is a BJT in common base mode.

As to claim 5, Voinigescu teaches an RF mixer comprising: a mixer core having a first input terminal (Voinigescu, fig 9, terminal coupled to the emitters of Q3 & Q4) for receiving a first current signal and a second input terminal for receiving a second current signal (Voinigescu, fig 9, terminal coupled to the emitters of Q5 & Q6); a first sub-cell coupled to the first input terminal to provide the first current signal responsive to an RF input signal, the first sub-cell having a first transistor and first inductor (Voinigescu, fig 9, Q1, LE); and a second sub-cell coupled to the second input terminal to provide a second current signal responsive to an RF signal, the second sub-cell having a second transistor and a second inductor (Voinigescu, fig 9, Q2, LE').

As to claim 6, Voinigescu teaches the first transistor including a first terminal coupled to the first input terminal, a second terminal coupled to receive the RF signal and a third terminal (Voinigescu, fig 9, Q1), the first inductor having a first terminal coupled to the third terminal of the first transistor and a second terminal coupled to a common node (Voinigescu fig 9, LE).

As to claim 7, Voinigescu teaches the second transistor including a first terminal coupled to the first input terminal, a second terminal coupled to receive the RF signal and a third terminal (Voinigescu, fig 9, Q2), the second inductor having a first terminal coupled to the third terminal of the first transistor and a second terminal coupled to a common node (Voinigescu fig 9, LE').

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As to claim 8, Voinigescu teaches a current source coupled to the common node (Voinigescu fig 9, col 14, lines 45-50).

**Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Sano et al (US 5,884,154 has been cited to show another arrangement using degenerative inductors to provide greater dynamic range for a mixer (Sano col 1, lines 6-16).

Gilbert (US 5,826,182) has been cited to show the use of inductors for the RF input to a mixer (fig 15).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J. Sobutka whose telephone number is 703-305-4825. The examiner can normally be reached on Monday-Friday 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6296 for regular communications and 703-308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

pjs

March 24, 2001